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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,917	10/10/2001	Tohru Nagase	027260-494	4648

7590

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EXAMINER

WONG, ERIC K

ART UNIT PAPER NUMBER

2874

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/972,917

Applicant(s)

NAGASE ET AL.

Examiner

Eric Wong

Art Unit

2874



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24, 28 and 33 is/are rejected.
- 7) ☒ Claim(s) 25-27, 29-32, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-4, 6-9, 11-13, 17, 20, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Number 3013845 to Sayana.

As to claims 1, 3, 17, and 28, Sayana discloses a high frequency circuit package in figures 1-2, comprising:

- An optical semiconductor element for receiving or outputting a high frequency signal;
- A package having a cavity in which the optical semiconductor element is placed (figure 2);
- An electromagnetic wave absorptive element (5, 25);
- A seal element for covering and hermetically sealing the cavity of the package (6); and
- A cover that includes a metal layer or substrate (26).
- A circuit electrically connected to the semiconductor element.

As to claims 2, 6-8, and 20, the package has a box and cover joined to each other wherein the package cover is formed with the inner surface on which the electromagnetic wave absorptive element is arranged and formed.

As to claim 4, the package has a concavity in which the absorptive element is arranged and wherein the concavity is covered with the seal element to hermetically seal said element from the cavity of the package (Column 3, Lines 22-49).

As to claims 9 and 11-13, the material used can be dielectric and the walls of metal.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14, 16, 19 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Sayana as applied to claims 1 and 17 above, and further in view of United States Patent Number 6,012,853 to Pan et al.

Sayana discloses a high frequency integrated circuit containing a semiconductor device with an electromagnetic wave absorptive element, but fails to explicitly disclose the use of a laser or photo diode.

Using a photo or laser diode as a high frequency device is well known in the art as taught by Pan. Such a device could be used to transmit signals in an optical system.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Sayana to include a photo or laser diode such as the one taught by Pan in order to make a high frequency integrated circuit functional for optical systems.

5. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayana as applied to claims 1 and 17 above, and further in view of United States Patent Number 6,012,853 to Pan et al.

Sayana discloses an electromagnetic absorption element, but fails to explicitly disclose it including a conductive or magnetic material and an organic material.

Pan teaches different methods of making such an element using metal to provide a low reflectivity of light. Adding an organic material that is well known in the art would further enhance these properties.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Sayana to include the material used by Pan for an electromagnetic absorptive element to reduce the reflectivity for light in the ranges typically used for semiconductor laser diodes.

#### *Claim Objections*

6. Claims 25-27, 29-32 and 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art made of record does not explicitly disclose or reasonably suggest a sealed optical module with two separate cavities for internal devices or a multiplexer/demultiplexer or amplifier mounted in said cavities. Therefore claims 23-24 are allowed.

7. Claims 15 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art made of record does not explicitly disclose or reasonably suggest an optical semiconductor element formed of an electro-absorption element.

8. Claims 5 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art made of record does not explicitly disclose or reasonably suggest a metal ring surrounding the dielectric substrate and joined to the package box.

9. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art made of record does not explicitly disclose or reasonably suggest a package with a concavity.

### ***Conclusion***

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. United States Patent Number 5,247,530 to Shigeno et al for a laser diode module.

The information disclosure statement (IDS) submitted on 10/10/2001 has been considered by the examiner and made of record (note the attached copy of form PTO-1449).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 703-305-4741. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 703-308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

EW  
May 12, 2003

  
**HEMANG SANGHAVI**  
**PRIMARY EXAMINER**